

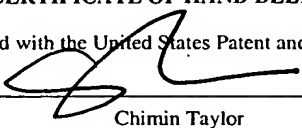


IPW

PATENT
Docket No.: 350292001900

CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Alexandria, Virginia on June 29, 2004.


Chimin Taylor

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Akihiro MOCHIZUKI et al.

Serial No.: 10/766,986

Filing Date: December 29, 2003

For: LIQUID CRYSTAL DISPLAY
DEVICE

Examiner: Not Yet Assigned

Group Art Unit: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97 & 1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

Pursuant to 37 CFR 1.97 and 1.98, Applicants submit for consideration in this application the documents listed on the attached Form PTO-1449. Copies of the documents are also submitted herewith. The Examiner is requested to make these documents of record.

This Information Disclosure Statement is being submitted within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

va-71311

Serial No.: 10/766,986
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Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 CFR 1.97 and 1.98 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal form is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952**, referencing 350292001900.

Dated: June 29, 2004

Respectfully submitted,

By 

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Form PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION <i>Use several sheets if necessary</i>	Docket Number 350292001900	Application Number 10/766,986
	Applicant Akihiro MOCHIZUKI et al.	
	Filing Date December 29, 2003	Group Art Unit Not yet assigned
	Mailing Date June 29, 2004	



U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate

FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO

OTHER DOCUMENTS

(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
	1.	A. Mochizuki et al., "Naphthalene Base Ferroelectric Liquid Crystal and Its Electrooptical Properties," Mol. Cryst. Liq. Cryst., Vol. 243 (1994), pp. 77-90
	2.	D. Coleman et al., "Control of Molecular Orientation in Electrostatically Stabilized Ferroelectric Liquid Crystals," Phys. Rev. Lett. 91, (2003), pp. 1-4
	3.	N. Clark et al., "Submicrosecond Bistable Electro-Optic Switching in Liquid Crystals," Appl. Phys. Lett. 36(11), June 1, 1980, pp. 899-901
	4.	T. Takahashi et al., "Preliminary Study of Field Sequential Fullcolor Liquid Crystal Display Using Polymer Stabilized Ferroelectric Liquid Crystal Display," Japanese Journal of Appl. Phys., Vol. 38, (1999) pp. L534-L536
	5.	N.A. Clark, et al., "Electrostatics and the Electro-Optic Behaviour of Chiral Smectics C: 'Block' Polarization Screening of Applied Voltage and 'V-Shaped' Switching," Liquid Crystals, Vol. 27, No. 7, (2000), pp. 985-990
	6.	J. Ogura et al., "A TFT-LCD Using Frustrating Antiferroelectric Liquid Crystal," IDW, (1999), pp. 199-202
	7.	P. Rudquist et al., "The Case Of Thresholdless Antiferroelectricity: Polarization-Stabilized Twisted SmC* Liquid Crystals Give V-Shaped Electro-Optic Response," J. Mater. Chem., (1999), pp. 1257-1261
	8.	Jun Xu et al., "Measurement of Molecular Conformation and Motion in V-Mode Polymer-Stabilized Ferroelectric Liquid Crystal Displays Using Ellipsometry," Jpn. J. Appl. Phys., Vol. 41, (2002), pp. L651-L653

EXAMINER:

DATE CONSIDERED:

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Form PTO-1449

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

Docket Number 350292001900

Application Number 10/766,986

Applicant

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| 9. | N.A. Clark, et al., "Electro-Optic Characteristics of de Vries Tilted Smectic Liquid Crystals: Analog Behavior in the Smectic A* and Smectic C* Phases," Applied Physics Letters, Vol. 80, No. 22, June 3, 2002, pp. 4097-4099 |
| 10. | P. Rudquist et al., "28.2: Invited Paper: Unraveling the Mystery of "Thresholdless Antiferroelectricity": High-Contrast Analog Electro-Optics in Chiral Smectic-Liquid Crystal," SID 1999 Digest, pp. 409-411 |
| 11. | A. Mochizuki et al., "Surface Anchoring Influence on Polarization Switching Properties of SSFLCS," Mol. Cryst. Liq. Cryst., Vol. 304, (1997), pp. 351-356 |
| 12. | P. Rudquist et al., "Effects of Phase Coexistence on the Electrooptic Response in the Antiferroelectric SmC*a Phase in Materials Exhibiting Thresholdless Switching in the Smectic C* Phase," International Ferroelectric Liquid Crystal Conference Record, (1999), pp. 182-183 |
| 13. | H. Pauwels et al., "Grey Levels in FLC Based on Static Threshold," International Ferroelectric Liquid Crystal Conference Record, (1999), pp. 152-153 |
| 14. | L. Komitov et al., "Light-Controlled Electro-Optic Response in a Chiral Smectic with Sign Reversal of the Spontaneous or Induced Polarization," International Ferroelectric Liquid Crystal Conference Record, (1999), pp. 184-185 |
| 15. | A.D.L. Chandani, "Tristable Switching in Surface Stabilized Ferroelectric Liquid Crystals with a Large Spontaneous Polarization," Japanese Journal of Applied Physics, Vol. 27, No. 5, May 1988, L729-L732 |
| 16. | Y. Takanishi et al., "Spontaneous Formation of Quasi-Bookshelf Layer Structure in New Ferroelectric Liquid Crystals Derived from a Naphthalene Ring," Japanese Journal of Applied Physics, Vol. 29, No. 6, June 1990, L984-L986 |
| 17. | N.A. Clark et al., "Electro-Optic Characteristics of de Vries Tilted Smectic Liquid Crystals: Analog Behavior in the Smectic A* and Smectic C* Phases," Applied Physics Letters, Vol. 80, No. 22, June 3, 2002, pp. 4097-4099 |
| 18. | T. Takahashi et al., "P-71: Computer Simulation of Polymer-Stabilized FLCs Exhibiting V-Shaped Switching," SID Conference Record, (2002), pp. 476-479 |
| 19. | S. Kobayashi, "4.4: Polymer-Stabilized FLCs Exhibiting V- and Half-V EO Characteristics," SID Conference Record, (2001), 4 pages |

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